the blast furnace, the converting apparatus only performs one-half of the work, whilst the other half is performed by the blast furnace. With such modes of working both apparatuses, essentially thus actually form an organic whole, and each lightening of the task which one can achieve in the one -portion comes as profit to the whole. The utilisation of the open-hearth furnace for the conversion grants the following facilities:

1. The phosphorus content of the pig iron can be higher or lower than the Thomas process admits of, and, therefore, often the manufacturing costs of the pig iron figure lower, without thereby actually being obliged to sacrifice the advantage which the winning of a marketable phosphatic slag carries with it.
2. One can without difficulty manufacture all classes of steel on the market.
3. One can with ease lower the production of the plant in times of bad trade, without specially unfavourably influencing manufacturing costs. One requires only to put out of employment the corresponding number of furnaces ; thereby of course the general charges grow, but since the remaining furnaces may be driven at full capacity, their purely working costs need not go up. On the 'contrary, a basic Bessemer ' works can only produce good results if the working can be forced, and each shrinkage of the same at once permits the manufacturing costs to rapidly go up in a grievous manner.
4. But the greatest advantage which the blast-furnace-open-hearth furnace combination affords consists in the greater productive capacity of the entire plant, which, as is apparent from the examples cited, is due to the increased output of finished steel from the same amount of pig iron worked. This larger output amounts, as against the basic Bessemer converter, to 1,093—800=213 tons of steel per 1,000 tons pig iron produced, and to attain such an increase of output would in the most favourable circumstances involve in a basic Bessemer works the installation of at least one new blast furnace.

All these advantages have for eight to ten years been emphasised by 0. Thiel. They have, however, up to the